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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,177	04/19/2004	Mukunda Prema	81044342 / FMC 1632 PUS	3176
28395	7590	01/10/2006	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			TRAN, DALENA	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/709,177	PREMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dalena Tran	3661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 6 and 8-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/19/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |



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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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10 / 709,177

EXAMINER

ART UNIT

PAPER

20060106

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

## **DETAILED ACTION**

### **Notice to Applicant(s)**

1. This application has been examined. Claims 1-18 are pending.

The prior art submitted on 4/19/04 has been considered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, and 14, are rejected under 35 U.S.C. 102(e) as being anticipated by Ibaraki et al. (5856709).

As per claim 1, Ibaraki et al. disclose a method for controlling on/off states of an engine in a hybrid electric vehicle powertrain, the method comprising the steps of: generating a plurality of request state variables based on a comparison of vehicle operating conditions and requirements, each variable indicating an active or inactive status of a plurality of engine requests (see columns 15-16, lines 45-65; and columns 27-28, lines 23-44), combining at least two request state variables to form a combined request state variable that contains active requests in the at least two request state variables (see columns 16-17, lines 66-42), simplifying the combined request state variable to eliminate any redundant requests and to resolve any conflicting requests (see column 20, lines 1-47; and columns 33-34, lines 46-51), providing a

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final request state variable, and evaluating the final request state variable to determine whether a change in engine state is desirable (see columns 21-22, lines 35-30).

Claim 14, is a system claim corresponding to method claim 1 above. Therefore, it is rejected for the same rationales set forth as above.

4. Claims 2, 5, 15, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilton et al. (US 2004/0174125 A1).

As per claim 2, Wilton et al. disclose a method of controlling the on/off state of an engine in a hybrid electric vehicle powertrain comprising the following steps: generating a plurality of request state variables based on a comparison of vehicle operating conditions and requirements, each variable indicating the active or inactive status of each of a plurality of engine requests, the value of each request state variable being constrained to a set of fundamental request states (see [0056] through [0062]), combining at least two request state variables to form a combined request state variable that contains active requests in the at least two request state variables (see [0063]), simplifying the combined request state variable to eliminate any redundant requests and to resolve any conflicting requests (see [0067] through [0070]), providing a final request state variable, and evaluating the final request state variable to determine whether a change in engine state is desirable (see [0071] through [0075]).

As per claim 5, Wilton et al. disclose engine requests are grouped in hierarchical levels through the combining and simplifying steps (see [0086] to [0087]).

Claims 15, and 18 are system claims corresponding to method claims 2 and 5 above. Therefore, they are rejected for the same rationales set forth as above.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilton et al. (US 2004/0174125 A1) in view of Ibaraki et al. (5856709).

As per claim 3, Wilton et al. do not disclose OR operation. However, Ibaraki et al. disclose combining joins two or more request states through a bitwise OR operation (see columns 22-23, lines 31-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Wilton et al. by combining OR operation to select each request state variable of vehicle operation.

As per claim 4, Wilton et al. disclose an arbitration operation that follows the requests according to a predetermined priority (see [0081] through [0084]).

Claims 16-17 are system claims corresponding to method claims 3-4 above. Therefore, they are rejected for the same rationales set forth as above.

7. Claim 7, is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilton et al. (US 2004/0174125 A1) in view of Yakes et al. (6885920).

As per claim 7, Wilton et al. do not disclose binary word. However, Yakes et al. disclose each fundamental request state comprises a 6 bit binary word, each bit identifying whether an engine request state is active or inactive (see column 10, lines 8-25; and column 41, lines 11-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made

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to modify the teach of Wilton et al. by combining binary word to represent engine state of the vehicle operation.

8. Claims 6, and 8-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Drozd et al. (6242873)

. Gollomp et al. (6424157)

. Shimizu et al. (6546320)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

Dalena Tran

A handwritten signature in cursive script, appearing to read 'Dalena Tran', written in black ink.

January 6, 2006